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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,873	09/09/2003	Antonio Mecozzi	1999-0532CON	2085

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EXAMINER

LI, SHI K

ART UNIT

PAPER NUMBER

2633

DATE MAILED: 10/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

✕

<b>Office Action Summary</b>	<b>Application No.</b> 10/657,873	<b>Applicant(s)</b> MECOZZI ET AL.	
	<b>Examiner</b> Shi K. Li	<b>Art Unit</b> 2633	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-7,9,10,12,14,15,17 and 20-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10,12,14 and 23 is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6,15,20 and 21 is/are rejected.
- 7) ☒ Claim(s) 5,7,9,17 and 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 1 is objected to because of the following informalities: "frequency dependent-dependent" in line 4 should read "frequency-dependent". Appropriate correction is required.
2. Claim 23 is objected to because of the following informalities: "frequency dependent-dependent" in line 6 should read "frequency-dependent". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claim 21 recites the limitation "the axis" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

### ***Double Patenting***

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

Art Unit: 2633

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1 and 4 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,674,972 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 1 of patent '972 recites all the limitations of claims 1 and 4 of instant application except claim 1 of '972 uses the term "rotating device" while claims of instant application use term "polarization state rotator". However, they perform the same function and are equivalents.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2633

9. Claims 1, 2, 4 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Wilde et al. (U.S. Patent 6,609,841 B1).

Regarding claim 1, Wilde et al. discloses in FIG. 1 an apparatus for eliminating potential noise caused by polarization dispersion. FIG. 1 comprises a first polarization state rotator including half-wave plate 130, polarimetric delay line 160, a first-order PMD compensator including half-wave plate 177, polarization maintaining fiber 180 and quarter-wave plate 185. The MO media 190 reflects light signal into reverse direction through the polarization state rotator.

Regarding claim 2, Wilde et al. uses the same polarization state rotator for the forward and backward light signal.

Regarding claim 4, let the forward transfer function be  $R$ , then the transfer function in the reverse direction is  $R^{-1}$ .

Regarding claim 6, Wilde et al. teaches in col. 6, lines 30-33 that the objective of the invention is to provide a net optical path difference of zero for the main light signal (center frequency).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 15 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilde et al. (U.S. Patent 6,609,841 B1).

Art Unit: 2633

Wilde et al. has been discussed above in regard to claims 1, 2, 4 and 6. The difference between Wilde et al. and the claimed invention is that Wilde et al. does not teach to vary the delay of the polarimetric delay line. However, Wilde et al. teaches in col. 5, lines 46-col. 6, line 6 to minimize the relative delay between the two polarization components of the main light signal. Therefore, one of ordinary skill in the art is motivated to make the delay adjustable so that it can be adjusted to give optimal results based on the real operation conditions such as wavelength of the light source, temperature, etc. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use adjustable delay for the polarimetric delay line in the apparatus of Wilde et al. because this allows adjustment of the delay to give zero relative delay between the two polarization components of the main light signal.

#### ***Allowable Subject Matter***

12. Claims 5, 7, 9, 17 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Claims 10, 12, 14 and 23 are allowed.

#### ***Response to Arguments***

14. Applicant's arguments with respect to claims 1, 2, 4, 6, 15 and 20-21 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

Art Unit: 2633

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shi K. Li whose telephone number is 571 272-3031. The examiner can normally be reached on Monday-Friday (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

skl

  
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